CALIFORNIA ENTERPRISE ARCHITECTURE PROGRAM (CEAP) PRINCIPLES

Architecture principles are statements that guide decision making. They define the underlying general rules and guidelines for the use and deployment of IT resources and assets across the enterprise. These principles reflect a level of consensus among the various elements of the enterprise, and form the basis for making future IT decisions in the State of California. "Rationale" provides the justification as to why the principle has been identified (business need). "Implications" detail the negative repercussions if the principle is not followed.

The California Enterprise Architecture Program (CEAP) incorporated, and in a few instances enhanced, the 7 principles contained in the California Enterprise Architecture Framework. Additional research was conducted of Federal and State Government agencies and private businesses' Enterprise Architecture principles. CEAP leveraged those entity's documented principles to develop new principles which help to express the direction of Enterprise Architecture in California.

When developing IT solutions for current and newly engineered business processes, the goal of the 14 Enterprise Architecture Principles listed below is to develop a guiding process that will enable our state to become a citizen-centered, results-oriented and cost effective government. Following these principles and Enterprise Architecture will improve business and technology alignment, statewide service delivery, security, statewide data sharing, and enterprise-wide integration. And through these efforts as a State we will greatly enhance our ability to meet our growing customer's needs by providing increased services while lowering overall costs to improve the use of state IT resources. It is a "win-win" situation for local and state governments, and for the citizens we serve.

#	Principle	Statement	Rationale	Implications
1	**Customer-Centric Service Delivery**	*Government is "by the people and for the people," consequently the delivery of Government Services should also be in alignment with this foundational principle.*	For Government Service delivery to be effective, it must meet the needs of the customer, and focus on the customer's ability to consume the service. Driving service delivery requirements from this perspective insures that the business process and the underlying technology support infrastructure are adequate to service the customer's needs.	Government performance objectives and metrics should be developed within the context of the various customer audiences, and their Government Service needs. Management and investment decisions should be weighted against these customer audience objectives, and measured with the corresponding metrics.
2	**Enterprise Focus**	*Application solutions framed within the context of the enterprise must afford the best possible leverage for the investment.*	Decisions made from a statewide perspective have greater long-term value than decisions made from any particular organizational perspective.	A governance structure must be implemented that supports statewide investment decision-making. Achieving maximum statewide benefit

				will require changes in the way we plan and manage information. Some organizations may have to concede their own preferences for the greater benefit of the entire state. Information management initiatives should be formulated in accordance with the statewide plan and conform to the blueprints and priorities established by the state.
3	**Common Solutions**	*Develop common solutions that can be leveraged across business cases.*	Re-useable enterprise applications, objects, and components reduce the total cost of ownership by lowering application development, maintenance and operations costs.	State IT assets will not be used as effectively as they could be. Total cost of ownership for IT solutions will be higher. Less control over deployed IT assets if solutions continue to be built in a non-reusable fashion.
4	**Enterprise Data Focus**	*The state will coordinate interagency and intergovernmental data collection and management, to improve data sharing capabilities and reduce costs of acquiring and managing data.*	Data that will be used in a shared environment must have a common definition. A common vocabulary will facilitate communications and enable dialogue to be effective. Timely access to accurate data is essential to improving the quality and efficiency of enterprise decision making. It is less costly to maintain timely, accurate data in a single application, and then share it, than it is to maintain duplicative data in multiple applications.	Laws and statutes must be considered when sharing data across organizational boundaries. Data and information used to support statewide decision-making will be standardized to a much greater extent. Data standards and quality must be utilized across the enterprise.
5	**Enterprise Security Focus**	*Enterprise information will be secure from unauthorized access, modification, or destruction.* .	Information must be safeguarded against inadvertent or unauthorized alteration, sabotage, disaster, or disclosure. Government has a responsibility to	Hacking, viruses, and terrorism increasingly threaten the state's systems. If IT security is not done correctly, loss of public trust and legislative oversight

			protect data integrity and confidentiality. Secure systems ensure the continuity of the state's business. Systems and data must be secured with best practices and with security assessments being conducted on a regular basis	will likely occur. It is time consuming and costly to repair systems that have been compromised. Must identify, publish, and keep applicable policies current. Security must be designed into systems from the beginning. It cannot be added later.
6	**Standards & Best Practices**	*Service solutions should incorporate the use of best practices (business and/or IT) and include appropriate standards.*	Use of proven technology will simplify software design, reduce application development time, and thus reduce total cost of ownership. Use of best practices results in better utilization of state resources as well as improved service delivery. Fewer products and configurations simplify the information technology environment and reduce IT operating costs.	An Enterprise Architecture will be recommended based on research conducted with industry analysts, consultations with leading private sector companies, as well as focus group meetings with state departments and agencies. A process must be established for setting, reviewing and revising standards periodically, and granting exceptions. The process must be fast enough to support business and design drivers. Standards will be followed unless there is a compelling business reason to implement a non-standard solution. Information technology policy and procedures must be tied directly to this principle.
7	**Compliance with the Law**	*Comply with all relevant laws,*	Enterprise information management	The state must be mindful to comply

		policies, and regulations.	processes must comply with all relevant laws, policies, and regulations. Statewide policy is to abide by laws, policies, and regulations and does not preclude business process improvements that lead to changes in policies and regulations.	with laws, regulations, and external policies regarding the collection, retention, and management of data. Changes in law and changes in regulations may drive changes in our processes or applications.
8	**Interoperability**	*Design systems that interoperate effectively.*	Interoperability is more than connecting components and applications. It means that the resulting systems not only work together well, but they meet business scalability, availability, recoverability, manageability, and performance requirements.	Business may not operate as efficiently or effectively if interoperability is not carefully engineered into solutions. The return on investment of State IT assets will also be lower.
9	**Cooperation**	*California Agencies, business partners, and customers need to cooperate when establishing E-Government Solutions*	Cooperation promotes the flow and exchange of technical information between government entities, employees and citizens. It supports the sharing of resources and costs, the achievement of economies of scale, and minimizes redundancy. Inter-Agency cooperation enables California to deliver services to customers and to transact business via a consistent, common approach, which promotes usability and enhances productivity.	The Enterprise Architecture promotes horizontal and vertical integration of information technology resources among agencies, business partners and customers by developing and leveraging common solutions. Attention to recommendations as they are developed will greatly enhance the value of service solutions and the utility of the Enterprise Architecture. The Enterprise Architecture encourages participation from a broad range of agencies.
10	**Value Driven**	*Decisions concerning IT investments must be measured against "best value" over the system lifecycle rather than the*	The return on investment in information technology assets can be maximized when assets are resilient to change, and when their	The Enterprise Architecture advocates leveraging components that can be reused and shared. "Reuse before buy, and buy before

		lowest cost	value is sustained or enhanced over the expected system life cycle.	build."
11	**Extensible and Open Systems*[1]**	*Enterprise Architecture IT solutions must be open, easily modified, dexterous and extensible*	When systems are open, easily modifiable, dexterous and extensible, they enable rapid response to changing needs. When systems are open they are more cost effective due to extended utility and broader selections of vendors for adding new or replacement solutions. Where change is continuous, a common architecture is needed to support responsiveness during service fluctuations, continuity during service growth and longevity during times of stability, with minimal business process disruption. Open systems facilitate the porting of applications without extensive retooling.	EA must be adaptive, providing continuous alignment between the business of state government and technology. The underlying technology infrastructure must be open, easily modifiable, dexterous and extensible to meet changing business needs. EA must design an ongoing process that allows for integration and synchronize of appropriate technologies to best serve the business of state government its citizens. California should be able to expand or contract its infrastructure in concert with shifts in demand, without sacrificing response time or efficiency.
12	**Governance**	*Enterprise Architecture should ensure business and technology alignment is achieved prior to committing IT resources.*	The State's business vision and strategic plans articulate both direction and priorities that guide where to focus our efforts. Information technology decisions need to be driven by this business vision and these strategic planning priorities.	Budget decisions must reflect business/ IT alignment and planning priorities are met to ensure best use of resources. Failure to consider business/ IT alignment and planning priorities leads to less effective solutions and more costly programs and services.

[1] * "Open Systems" means to make an object accessible so different users can share the same resources. This is not to be confused with "Open Source" which refers to a program where the source code is available to the general public for use and/or modification.

13	**Commitment**	*Executive support is essential for implementing a Statewide Enterprise Architecture Program*	Cost effective e-government services results from executive level commitment for Enterprise Architecture at the highest organizational levels and across all governance entities regardless of political affiliation.	The State Enterprise Architecture Program must be recognized as a "business transformation" not a technical project. Support from the governor's office, in terms of executive orders or other policy directives, is a necessity. Support from Agency Directors and CIO's in the development and implementation of the EA program is crucial.
14	**Enterprise Architecture Compliance**	*Systems and technology infrastructure implemented by the State of California (the Enterprise) are compliant with the Enterprise Architecture even though there may be additional costs for architectural compliance.*	Enterprise Architecture compliance must be designed into technical solutions from the beginning. To obtain benefits of a common infrastructure, a enterprise-wide approach must prevail, allowing for cross-mission, cross-program interoperability efficiencies, resulting in over-all savings related to initial acquisitions and support, including training.	Lowest cost will not be the sole determining factor in the selection of an IT solution.
15	**Common Business Vision**	*All State agencies participate in planning and decision making activities needed to accomplish the State mission and business objectives.*	Business users are the key stakeholders in the application of technology to address mission and business needs. In order to ensure that information technology is aligned with the State mission and business, all State agencies and departments need to be involved in all aspects of the application of the IT environment and must establish and share a common vision.	IT projects should be considered and approved if they reflect the common business vision of the state.